Syntactic Constraints in a "Free Word Order" Language

Mary Laughren

The Warlpiri[1] language of central Australia has gained considerable notoriety in the syntactic literature as a language in which the ordering of both argument and adjunct nominal and postpositional phrases is "free," and in which there is only indirect evidence from surface syntactic structure for a verb phrase (VP) constituent (Hale, 1983; Laughren, 1989; Nash, 1986; Simpson, 1991). Furthermore, the expressions embedded within a single noun phrase (NP) in English, may be distributed as independent, although semantically related, constituents throughout a clause in Warlpiri. Thus Warlpiri appears, on the surface at least, to contrast very strongly with languages such as English in which the order of nominal and prepositional phrases relative to the verb is highly constrained; for example, the difference in the relationship between the verb and the "object" NP as opposed to the verb and the "subject" NP is directly reflected in the surface syntactic relationship between the verb and these NPs. Variations in word order in English sentences have been shown to be best accounted for as derived, subject to recognized constraints, from an underlying structure in which the subject NP c-commands the object NP.[2] (See Speas, 1990, for a thorough discussion of the theory of phrase structure in a cross-linguistic perspective.)

The freedom of word order for which Warlpiri, like many other Australian languages, is famous is illustrated in (1).[3] Word order appears to play no part in the identification of a subject-object contrast in Warlpiri. Rather it is the case-marking on the nominal constituents that signals their grammatical function as shown in (1) and (2)

in which these functions are contrasted: overtly marked Ergative case on the transitive subject NP and unmarked Nominative case on the Object NP.

(1) a. *Yankirri-rli* *maju-manu* *yakajirri.*
Emu-ERG bad-made berries:NOM
b. *Yakajirri maju-manu yankirri-rli.*

c. *Yankirri-rli yakajirri maju-manu.*
d. *Maju-manu yakajirri yankirri-rli.*
e. *Maju-manu yankirri-rli yakajirri.*
f. *Yakajirri yankirri-rli maju-manu.*
'Emu spoilt the berries.' (lit. 'Emu bad-made (the) berries')

(2) a. *Yakajirri-rli* *maju-manu* *yankirri.*
berry-ERG bad-made emu:NOM

b. *Yankirri maju-manu yakajirri-rli.*
'The berries hurt Emu.'

The phenomenon of discontinuous or split nominal constituents is illustrated in (3). In (3a) both nominal phrases referring to the same entity are adjacent to each other, the modifying phrase immediately following the modified phrase.[4] In (3b), on the other hand, these phrases are separated by intervening constituents. Again the coreferential function of both phrases is formally marked by identical case: ergative case on the components of the transitive subject phrase (*yakajirri-rli* and *maju-ngku*)[5] and unmarked nominative case on those of the transitive object phrase (*yankirri* and *wita*).

(3) a. *Yakajirri-rli* *maju-ngku* *yankirri* *wita*
berry-ERG bad-ERG emu:NOM small:NOM
maju-manu.
bad-made
'The bad berries hurt the little emu.'

b. *Yakajirri-rli* *yankirri* *maju-manu* *wita*
berry-ERG emu:NOM bad-made small:NOM
maju-ngku.[6]
bad-ERG
'The bad berries hurt the little emu.'

Another feature of Warlpiri syntax that contrasts with English is that argument NPs are not obligatorily expressed—they are only optional. This aspect of the grammar, illustrated in (4), has been widely discussed

(Austin and Bresnan, 1996; Hale, 1983; Jelinek, 1984; Nash, 1986; Pensalfini [to appear]; Simpson, 1991, among others).

(4) *Maju-manu.*
bad-made
'(He/she/it) spoilt (him/her/it).'

These contrasts in the "surface" syntactic relations between the phrasal constituents of English and Warlpiri finite clauses raise a number of obvious questions to which a range of answers have been offered in the literature. The most radical approach would be to entertain the hypothesis that the language faculty of speakers of English-type languages differs from that of speakers of Warlpiri-type languages. To put it another way, are these languages so different because they are the product of different language acquisition devices? The answer to this question must surely be no, since Warlpiri children exposed to English during the critical period acquire native-speaker competence in English, and the children of English-speaking parents appropriately exposed to Warlpiri acquire that language with the same ease as the children of Warlpiri parents.[7] We also know that languages derived from a common ancestor language can differ in the way that English and Warlpiri do.[8] Thus these differences would seem to reflect minor variations within one or more of the linguistic modules or subcomponents of the morphosyntactic system and/or in the relationships between them.

On the face of it, the surface syntactic structure of the Warlpiri finite clause would appear to be less constrained than that of the English counterpart. However, if language is constrained by the nature of human linguistic capacity (the so-called "language acquisition device"), then no language can operate outside those constraints. We can discover very little about linguistic systems by studying those areas in which a particular language appears to display random behavior, such as free word order, or optionality. It is the study of constraints on observable linguistic behavior that provides us with deeper insights into the grammar of a particular language and consequently into language in general.

The aim of this chapter is to examine a number of constraints on the surface structure of Warlpiri finite clauses and show how these can be accounted for if we assume that the syntactic relationships underlying the Warlpiri clause are not fundamentally different from those underlying the finite clauses of languages such as English in which the surface word order is so much more rigid. My particular focus here is on the complex of functional categories that underlie a word-like element referred to as the "auxiliary" (AUX) whose position within the clause is anything but free and on the interactions between the AUX and the other constituents of a finite clause.

In the second section, I present the basic structure of the Warlpiri AUX, concentrating on the morphemes that convey modal, temporal, and aspectual values and show how these interact with inflectional properties marked by verbal suffixes. The next section examines the constraints on the position of AUX in the clause and also on that of other clausal constituents relative to the AUX. I discuss three main proposals that have been offered to account for these data and present my own proposal. In so doing I examine in some detail the composition of complex verbs and the role of the directional enclitics in the verbal complex. Next I describe the interactions between negation and the AUX and the particular syntactic constraints that can be observed in the presence of negation. Then, the syntactic properties of the AUX categories in the Warlpiri finite clause are compared with those in the auxiliary complex in some genetically related Ngumpin-Yapa languages: Gurindji, Mudburra, and Walmajarri. This discussion focuses on the interaction of the shared negative word *kula* with the "auxiliary" complex in these languages, and the place of attachment of the pronominal enclitics. These conclusions are reviewed and summarized in the last section.

COMPOSITION OF WARLPIRI AUX

Most analyses of the Warlpiri AUX characterize it as being composed of three distinct categorical constituents whose surface form is template-like (Nash, 1986; Simpson and Withgott, 1986). These three AUX categories have been variously labeled, but there is a fairly general consensus that the leftmost category is a "complementizer" type category (C), which precedes an aspectual category first dubbed "auxiliary base" (BASE) by Hale (1967), and that the rightmost category is pronominal (PRON). The pronominal category is realized by forms that mark the person and number features of both subject and non-subject constituents.

The AUX characterizes *finite* clauses that contrast with *non-finite* clauses that lack AUX (Hale, 1982; Simpson and Bresnan, 1983; Laughren, 1988). Finite clauses are of two types: verbal and non-verbal. It is in the former that the "full" AUX is found, while in non-verbal clauses the AUX is "defective," being only overtly represented by PRON. This is also the case where the verb is inflected as "presentational present." Clauses containing an imperative verb have an even more "defective" AUX in that it consists only of PRON minus the forms that mark the subject person features, as the imperative itself obligatorily has second person (addressee) subject reference.

As we will see, there is a selective relationship between the non-PRON AUX forms and the form of verbal inflection expressed as a verbal suffix.

Auxiliary Bound Pronouns

The AUX in (5a) is made up of a morpheme *ka* belonging to the BASE category and a pronominal morpheme *=rna* marking the first person subject. The absence of overt number marking is interpreted as singular reference. In (5b) the auxiliary contains the plural subject enclitic *=lu* in addition to the first person subject enclitic, so that the reference is first person plural exclusive (of addressee). In (5c) the absence of overt person marking is interpreted as third person, while the plural subject enclitic *=lu* indicates plural reference. (In [5] and all following examples, AUX is bolded.)

(5) a. *Wangka-mi* ***ka=rna*** *Yurntumu-wardingki.*
speak-NPAST CENTr-1.s Y-habitant:NOM
'I, a Yuendumu person, am speaking.'

b. *Wangka-mi* ***ka=rna=lu*** *Yurntumu-wardingki-patu.*
speak-NPAST CENTR-1S=PL.S Y-habitant-PL:NOM
'We Yuendumu people are speaking.'

c. *Wangka-mi* ***ka=lu*** *Yurntumu-wardingki-patu.*
speak-NPAST CENTR-PL.S Y-habitant-PL:NOM
'The Yuendumu people are speaking.'

AUX may also contain non-subject person and number morphemes signaling the appropriate characteristics of the referent of a direct object, indirect object, or "dative" adjunct (beneficiary, possessor, maleficiary, etc.). Non-subject auxiliary pronominals are featured in (6). For convenience all non-subject forms are glossed "NS."

(6) a. *Wangka-mi* ***ka=rna=ngku*** *Yurntumu-wardingki.*
speak-NPAST CENTR-1.s=2.ns Y-habitant:NOM
'I, a Yuendumu person, am speaking to you.'

b. *Wangka-mi* ***ka=rna=ngku=pala*** *Yurntumu-wardingki.*
speak-NPAST CENTR-1.S=1.ns=dual Y-habitant:NOM
'I, a Yuendumu person, am speaking to you two.'

c. *Wangka-mi* ***ka=rna=ngku=lu*** *Yurntumu-wardingki.*
speak-NPAST CENTR-1.S=2NS=PL.S Y-habitant:NOM
'We Yuendumu people are speaking to you.'

The bound pronouns are always encliticized (in strict order) to the other AUX elements if present, otherwise to the immediate pre-AUX constituent as shown in (7).[9] The presence of the AUX base form *ka* in (5) and (6) contrasts with its absence in (7) where the act of speaking

referred to is viewed as potentially taking place subsequent to the utterance[10] and carries modal nuances.

(7) a. *Wangka-mi=**li** =**ngalpa** Yurntumu-wardingki-patu.*
speak-NPAST=PL.S =1INCL.PL.NS Y-habitant-PL:NOM
'The Yuendumu people may/shall speak to us.'[11]

b. *Yurntumu-wardingki-patu=**lu**=**ngalpa** wangka-mi.*
Y-habitant-PL:NOM=PL.S=1INCL.PL.NS speak-NPAST
'The Yuendumu people may/shall speak to us.'

In the remaining sections, I will have little further to say about the pronominal[12] components of AUX, which I will simply refer to as PRON, or how they are to be represented in the syntactic structure underlying the finite clause. My focus will be on the interrelationship between the categories that express negation, modal, temporal, and aspectual values within the AUX and the syntactic relationships between AUX and the pre-AUX constituents.

Relationship Between the Auxiliary Categories and Verbal Inflections

In the English verbal complex, the order of verb types[13] is strictly ordered: modal, perfect "have," progressive "be," passive "be," lexical verb (e.g., "He will have been being interviewed."). Tense (and subject person and/or number agreement if non-modal) is marked on the first verb in the string. The form in which each verb is realized is determined by the preceding verb: base form after modal, past participle after perfect "have," gerundive participle after progressive "be," past participle after passive "be." This type of highly regulated syntactic structure is reflected also in the Warlpiri AUX and verb system in finite clauses.

The BASE[14] *ka*, illustrated in (5) and (6) is found only in conjunction with a verb bearing a nonpast (NPAST) suffix; thus there is a dependency between the BASE form and the form of the verbal inflection: *ka* ⊃ (V)-NPAST. The BASE *-lpa* can be used only in conjunction with a verb bearing either the past or irrealis suffix as illustrated in (8): *lpa* ⊃ V-PAST or V-IRREALIS.[15]

(8) a. *Wangka-ja=**lu**.*
speak-PAST=(3)PL.S
'They spoke.'

b. *Wangka-ja=**lpa**=**lu**.*
speak-PAST=CENTR=(3)PL.S
'They were speaking.'

c. *Wangka-yarla=**lu**.*
speak-IRR=(3)PL.S
'They should have spoken.'

d. *Wangka-yarla=**lpa**=**lu***
speak-IRR=CENTR=(3)PL.S
'They should speak.'

These two monosyllabic BASE forms, *lpa* and *ka*, fail to constitute a phonological word in Warlpiri, which minimally requires a foot containing two vowels. Furthermore, the consonant cluster in *=lpa* is not permitted at the "left edge" of a phonological word. Where *ka* hosts a pronominal enclitic, the AUX may be clause initial, thus creating a marked emphatic structure in which contrastive focus is placed on the predicate, e.g., *Ka-rna ya-ni.* (CENTR-1.S go-NPAST) "I *am going.*"[16]

The possible combinations of AUX base forms and verbal inflections are summarized in Table 5-1.

Augmented AUX

An AUX base (BASE), *ka*, *-lpa* (or null), can be augmented by a member of another category, usually taken to be the complementizer (C), but which will be provisionally labeled AUG (auxiliary "augment"). Members of this category must immediately precede the BASE; they express both temporal and modal contrasts. Unlike the monosyllabic BASE forms, AUG forms, with one exception, are disyllabic, and thus have the required prosodic characteristics of a phonological word. AUG must always immediately precede the BASE (no other form may intervene between the AUG and BASE). As shown in Table 5-2, not all combinations of AUG and BASE are permitted, nor can all verbal

TABLE 5-1. AUX BASE and Compatible Verb Inflections

AUX BASE	*VERB INFLECTION*	*MEANING*
ka	non-past	'present'
ø	non-past	'immediate future'
ø	past	'past perfective'
ø	irrealis	'past counterfactual'
ø	future	'future'
ø	imperative	'imperative'
ø	presentative	'presentative present'
lpa	past	'past imperfective'
lpa	irrealis	'present counterfactual'

TABLE 5-2. AUX Augment, AUX Base, and Compatible Verbal Inflections

AUG	*BASE*	*Verb Inflection*	*Meaning*
kuja	ø	past	'past'
	lpa	past	'past imperfective'
	ka	present	'present'
kaji	ø	past	'if/when/must past'
	ø	present	'if/must future'
	ø	future	'if/must future'
	ø	irrealis	'if counterfactual'
	ka	present	'potential'
	lpa	past	if/when past 'imperfective'
	lpa	irrealis	'if hypothetical'
yungu ~ yi~ yinga ~ yingi	ø	past	'past'
	ø	present	'present/future'
	ø	irrealis	'desire counterfactual'
	ø	future	'future'
	ka	non-past	'present/immediate future'
	lpa	past	'past continuous'
	lpa	irrealis	'desire future'
kala	ø/ lpa	past	'customary past'
kala	ka	present	'potential'
kapu ~ kapi	ø	present/future	'future'
	ø	irrealis	'counterfactual'

inflections combine with all AUG forms even where the BASE form is null. For example, only the "past" and "non-past" verbal inflections co-occur with the AUGs *kuja* and *kala* although these AUGs may combine with both overt BASE forms, *ka* and *-lpa*.[17] The "future" AUG *kapu* selects the null BASE but combines with all verb inflections that combine with an overt AUG or BASE except the "past" form. The infinitival, nomic, presentational present, and imperative verb inflections, which may *not* combine with an overt BASE, *cannot* combine with an overt AUG either.[18]

The AUG forms *kaji* and *yungu* are clearly the least restrictive, combining with both overt BASE forms and with all verbal inflections that may combine with an overt AUG or BASE. The templatic morphological

structure of the full AUX is illustrated by the examples in (9), which also provide a sample of the semantic nuances expressed by different combinations of AUG, BASE, and verb inflection.

(9) a. *Wati* ***kaji=li*** *ya-nu.*
man:NOM KAJI=PL.S go-PAST
'The men must have gone.'

b. ***Kaji=lpa=lu*** *wati* *ya-nu.*
KAJI=CENTR=PL.S man:NOM go-PAST
'When/As the men were going.'

c. ***Kaji=lpa=lu*** *wati* *ya-ntarla,*
KAJI=CENTR=PL.S man:NOM go-IRR
kaji=ka=lu=nganpa *kuyu* *luwa-rni.*
KAJI=CENTR=PL.S=1EX.PL.NS game:NOM shoot-NPAST
'If the men were to go hunting, they would shoot us (some) game.'

d. ***Kala=lu*** *wati* *ya-nu* *wirlinyi,*
KALA=PL.S man:NOM go-PAST hunting:nom
kala=lu=nganpa *kuyu* *luwa-rnu.*
KALA=PL.S=1EX.PL.NS game:NOM shoot-PAST
'When the men used to go hunting, they used to shoot us game.'

Figure 5-1 presents a summary of some of the ways in which the AUX components have been categorized and labeled. I will return to the problem of categorization of the AUX morphemes after examining their syntactic behavior in some detail, taking into account a number of previous analyses, particularly Austin and Bresnan (1996), Brunson (1988), and Hale (1967, 1968, 1973, and 1983).

I have omitted from the AUG forms listed in Table 5-2 the negative *kula*, which has been classified in previous studies as a "negative"

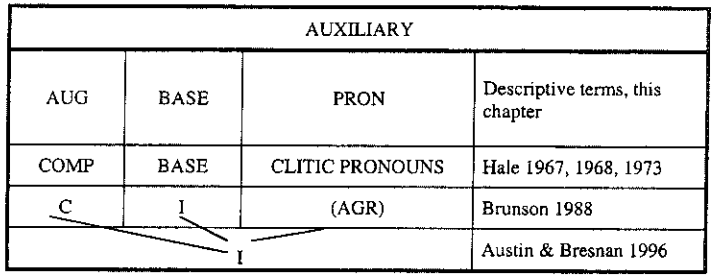


Figure 5-1. Categorization of Warlpiri AUX morphemes.

COMP[lementizer] because of its distribution; it may not co-occur with another AUG or C form, and it occupies the same position in the AUX template. In the section on Negative AUX, I will revisit this morpheme that imposes more restrictive syntactic behavior on pre-AUX constituents than any of the other AUG morphemes.

As illustrated by (9) and the preceding examples with overt AUX morphemes, AUX is typically realized in the "second" or so-called Wackernagel's position (9a), or in the clause initial (9b-d) position. The underlying representation of Warlpiri AUX and its position in the clausal structure will be further analyzed in the next section.

SYNTACTIC CONSTRAINTS ON THE POSITION OF AUX

Any AUX that contains an overt AUG, including the monosyllabic form *yi* (provided *yi* hosts other AUX morphemes), may occupy the clause initial position. As stated previously, an AUX consisting of the BASE *ka* may also occupy the initial position as long as it hosts an overt pronominal.[19] All other AUX forms must occupy a position that we will provisionally characterize as clause *second* position, as illustrated in (5) to (8). The AUX containing an overt AUG may also occupy this position.[20] Thus in those cases where AUX can only be realized in second position, as in (8), the motivation for placing it there rather than in initial position would appear to be phonological. Where the AUX may occupy the initial position, some other motivation must account for its realization in second position. The examples in (10) illustrate the positioning of an AUX that contains the AUG element *kala*, which in conjunction with the "past" inflection on the verb, gives a usitative remote past value; this AUX may occupy either the initial or second position.

(10) a. ***Kala=lu*** *warru-pu-ngu* *yapa-patu-rlu* *kuyu.*
PAST-(3)PL.S around-kill-PAST person-PL-ERG animal:NOM

b. *Yapa-patu-rlu* ***kala=lu*** *warru-pu-ngu* *kuyu.*
person-PL-ERG PAST=(3)PL.S around-kill-PAST animal:NOM

c. *Kuyu* ***kala=lu*** *warru-pu-ngu* *yapa-patu-rlu.*
animal:NOM PAST=(3)PL.S around-kill-PAST person-PL-ERG

d. *Warru-pu-ngu* ***kala=lu*** *kuyu*
around-kill-PAST PAST=(3)PL.S animal:NOM
yapa-patu-rlu.
person-PL-ERG
'The people used to kill animals all over.'

The three constituents following the AUX *kala=lu* in (10a), namely the complex verb *warru-pungu*, and the case phrases[21] (KP) *yapa-patu-rlu* and *kuyu*, can be placed in any order relative to each other. Any one of these constituents can occupy the pre-AUX position as shown in (10b-d), but *no more than one.*

The first task, of course, is to account for why AUX is restricted to one of these two positions, given the otherwise "free" order of other clausal constituents. In so doing, one must establish how these surface positions must be represented in the underlying system of structural relationships. Does AUX always occupy the same underlying position? If so, how should this position be characterized? If not, how do we account for the constancy of its surface location?

Hale (1967 and 1968) was the first to propose an underlying structure for the Warlpiri finite clause to accommodate the observations he made about the placement of AUX. He analyzed the clause (S) as composed of categories AUX -NP-VP, which accounted for the clause initial placement of AUX. To allow for one pre-AUX constituent, Hale proposed a movement rule (partially motivated by the phonological component) that placed a phrasal constituent before the AUX to serve as a host to which AUX could encliticize. He followed a similar approach in Hale (1973). In later works, Hale continued to address this question, accounting for the free word order and apparently "flat" constituent structure by delinking surface or phonetic structure from a deeper syntactic or lexical structure (his W* proposal),[22] while accounting for the positioning of AUX by stipulating it in the phrase structure of the finite clause headed by V: VP—> AUX XP* V XP* (Hale, 1982 and 1983).

What this approach fails to explain is (1) what motivates the pre-AUX positioning of a constituent when there is no phonological motivation for movement of a post AUX constituent to the pre-AUX position, and (2) what prevents more than one phrasal constituent moving to the pre-AUX position. Examples of relevant data are given in (9) and (10) where AUX contains an AUG morpheme. Another problem for Hale's (1967) and (1968) proposals, to which we will return later (see The Verb in Pre-Aux Position), is how to exclude the VP, as opposed to an NP (or KP), from moving to the pre-AUX position, assuming that VP dominates both the verb and an object NP.[23] This problem is solved in Hale's (1983) representation of the Warlpiri finite clause where VP represents the clause and immediately dominates both V and the NPs. However, this result is achieved at a high theoretical cost, as pointed out by Brunson (1988).

My approach to answering these questions will start by examining the nature of the constituents that may occupy the immediate pre-AUX position and to ask what they have in common and if the motivation for occupying this position is the same in all cases.

Pre-AUX Position

As noted both by Austin and Bresnan and by Brunson (following the documentation of Warlpiri already cited by Hale et al. and also Swartz [1991]), the pre-AUX position is a focus position as illustrated by the examples in (11): interrogative nominative case phrase (KP) in (11a), a nominative KP presenting "new" information in (11b) (for example, in reply to [11a]), an interrogative nominative case phrase (KP) in the scope of the propositional particle *mayi* in (11c), an interrogative verb in (11d), and a verb expressing "new" information in (11e), solicited, for example, by (11d).

(11) a. *Ngana-patu* ***ka=lu*** *wangka-mi ?*
who-PL:NOM CENTR-(3)PL.S speak-NPAST
'Which ones are speaking?'

b. *Yurntumu-wardingki-patu* ***ka=lu*** *wangka-mi.*
Y-habitant-PL:NOM CENTR-(3)PL.S speak-NPAST
'Yuendumu people are speaking.'

c. *Ngana-patu mayi* ***ka=lu*** *wangka-mi.*
who-PL:NOM NOT:KNOW CENTR-(3)PL.S speak-NPAST
'I don't know which ones are speaking.'

d. *Nyarrpa-jarri-mi* ***ka=lu*** *Yurntumu-wardingki-patu?*
how-INCH-NPAST CENTR-(3)PL.S Y-inhabitant-PL:NOM
'What are the Yuendumu people doing?'

e. *Wangka-mi* ***ka=lu*** *Yurntumu-wardingki-patu=ju.*
speak-NPAST CENTR-(3)PL.S Y-inhabitant-PL:NOM=TOP
'The Yuendumu people are speaking.'
(i.e., Speaking are the Yuendumu people.)

The KP in Pre-AUX Position

No type of KP is excluded from the pre-AUX position. For example, it may be occupied by a KP containing coordinated KPs (12a), juxtaposed coordinated KPs (12b), a co-referential sequence of KPs (12c), a KP containing multiple NPs (12d), or a KP containing a VP headed by an infinitival (or nominalized) verb (12e). Thus the immediate pre-AUX position cannot be easily characterized in phonological terms but can be easily characterized in syntactic terms as a position that can be filled by an XP (on condition that no syntactic constraint is violated by its being in that position).

(12) a. *Wati-ngki* *manu* *karnta-ngku* ***ka=lu*** *ngarri-rni.*
man-ERG and woman-ERG CENTR=PL.S tell-NPAST
'Men and/or women tell (him off).'

b. *Wati-ngki,* *karnta-ngku* ***ka=lu*** *ngarri-rni.*
man-ERG, woman-ERG CENTR=PL.S tell-NPAST
'Men and women tell (him off).'

c. *Ngulya-ngka* *jinta-ngka* ***ka=lu*** *paka-rni.*
burrow-LOC one-LOC CENTR=PL.S hit-NPAST
'They kill (them) in the one burrow.'

d. *Ngulya* *jinta-ngka* ***ka=lu*** *paka-rni.*
burrow one-LOC CENTR=PL.S hit-NPAST
'They kill (them) in one burrow.'

e. *Nalija(-ku-ngarnti-rli)* *jinta-kari(-ki-ngarnti-rli)*
tea(-DAT-PRIOR-ERG) one-other(-DAT-PRIOR-ERG)
purra-nja-ku-ngarnti-rli
cook-INF-DAT-PRIOR-ERG
ka=lu *ngawu-ngawu* *nalija* *warru-yinti-rni* [...]
CENTR=PL.S bad:NOM tea:NOM around-pour-NPAST
'Before making another (billy of) tea, they pour out the (old) bitter tea. . .'

Similar observations led both Austin and Bresnan (1996) and Brunson (1988) to the conclusion that the pre-AUX position is a SPEC position. This accounts for why the constituent realized in this position is a phrasal constituent, and not a head. Furthermore, to account for the clause initial occurrence of this constituent, it must be in the SPEC of a phrasal category projected by a functional head, this phrase defining the clause. Since it is AUX that immediately follows the clause initial XP, it must be AUX, or at least a component of AUX, which heads the clause.

Austin and Bresnan (1996) propose a representation of the Warlpiri finite clause that reflects elements of Hale's earlier formulations (Hale, 1967, 1968, 1973, and 1983). They argue that Warlpiri AUX is to be equated with the functional category I[nflection] that heads an IP taking as its complement the category S. In their account, S dominates an unordered sequence of constituents with a "lexical" head category: verb, NPs, etc. Thus their S is equivalent to Hale's (1983) clause structure except that AUX is outside S in Austin and Bresnan's account, being equated with IP.[24] Their IP may or may not have a SPEC[ifier]. Without a specifier, the clause is AUX-initial; with a specifier, AUX is in second position. This proposal is schematized in Figure 5-2.

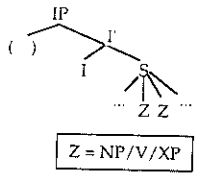


Figure 5-2. Main Finite Clause structure (compare Austin & Bresnan (1996:224 [12] & 225 [13]).

Arguing against Hale's (1983) weakening of the Government and Binding approach to syntactic representation, which maintained structure preservation at all levels of representation expressed in terms of a "projection principle" (Chomsky, 1981), Brunson (1988) proposes a syntactic structure in which the pre-AUX position is the SPEC of CP. This has the advantage of accounting for why any NP (not just the subject NP) can be realized as its SPEC—a result of A-bar movement—and also for the motivation for occupying that position: It is the site of focus. Austin and Bresnan (1996:228), on the other hand, explicitly reject the possibility that AUX equates with COMP. Brunson analyzes AUX as composed of multiple heads of distinct functional categories, C and I, corresponding to our AUG and BASE categories. To account for the impossibility of having a phrasal category in the SPEC of I (intervening between C and I) as opposed to CP, Brunson proposes that the maximal projection of I is I', this node only dominating its head and a COMP, as opposed to CP (=C") which dominates both a SPEC and a COMP. This analysis is schematized in Figure 5-3.

While all the proposals reviewed so far can account for the pre-AUX placement of a KP, none can account for the pre-AUX placement of the verb since the shared assumption is that the verb represents a head category X^0 and not a phrasal XP category. Therefore the verb cannot

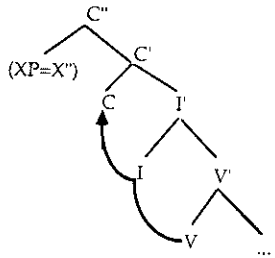


Figure 5-3. Partial structure of Warlpiri finite clause after Brunson (1988:16).

raise to the SPEC of CP. Hale's (1967, 1968) formulations of clause structure, which include a VP dominating both a verb and its complement NP, and likewise Brunson's VP of the same type, pose a different problem: how to exclude the VP from the SPEC of CP. This problem is avoided by Hale's (1983) representation of clause structure as an unordered string in which the verb and subject and object KPs (or NPs) are all sisters, as in the structure dominated by S proposed by Austin and Bresnan (1996). Before considering the solutions to these problems proposed by these authors, I will revisit sentences with the verb in pre-AUX position.

The Verb in Pre-AUX Position

As seen already in (5) through (8), in which an inflected form of the verb *wangka* "speak, talk, say" is found in clause initial position immediately followed by AUX, the pre-AUX position may be occupied by the verb whether the AUX is composed of an overt BASE, an overt BASE+PRON, or just PRON. The verb may also occupy the pre-AUX position when the AUX contains an overt AUG as seen in (10d) repeated here for convenience as (13a). Although the verb *warru-pu-ngu* in (13a) is transitive, it may not occur in pre-AUX position along with its "object" *kuyu* "animal" as shown by (13b and c).

(13) a. *Warru-pu-ngu* ***kala=lu*** *kuyu*
around-kill-PAST **past=PL.S** animal:NOM
yapa-patu-rlu.
person-PL-ERG
'The people used to kill animals all over.'

b. **Warru-pu-ngu* *kuyu* ***kala=lu.***
around-kill-PAST animal:NOM past=PL.S

c. **Kuyu warru-pungu* ***kala=lu.***

As discussed previously, Hale's earliest approach to the problem of the pre-AUX position was to assume that AUX would surface as clause initial, reflecting its underlying "deep" structure position, unless there was some motivation for movement of another clausal constituent to that position. It was assumed that the motivation was phonological. Hence this movement rule was part of the phonological, rather than the syntactic component. It moved a phonologically defined constituent to a morpho-phonologically defined position, where it provided a "host" for the enclitic AUX. The verb, like the other components found in the pre-AUX position, belonged to the same class of phonological objects,

presumably a phonological phrase, given the complexity of the permitted pre-AUX constituents as illustrated in (12). It appeared then that the verb formed a single "phrase," whereas the verb plus a complement NP/KP would comprise two "phrases." Hale does not attempt to define the phonological properties of the pre-AUX constituent, nor does Laughren (1989:322), who proposed a similar account of the distribution of constituents in the pre-AUX position.

The fact that any single KP, or the finite verb, may occupy the pre-AUX position in a clause containing the sort of AUX that may occupy the clause initial position indicates that the motivation for filling this position cannot be solely phonological. As seen previously, there is a clear semantic motivation since the pre-AUX position is associated with focus, and this position must therefore be defined in syntactic terms. This approach is taken by both Brunson (1988) and Austin and Bresnan (1996).

For Austin and Bresnan, the exclusion of the verb with its object from the pre-AUX position follows from their characterization of the sister relationship between the V and the other clausal constituents dominated by S. There is no VP in their constituent structure representation of the Warlpiri clause.[25] Brunson, on the other hand, assumes the existence of a D-Structure VP dominating both V and a complement NP. How then to exclude this VP from moving to the pre-AUX position identified as SPEC of CP?

Recall that in English, the entire VP headed by an uninflected V may move to a pre-subject position, SPEC of C, while the inflected auxiliary verb is in the post-subject position, as in (i)a in note 23. Brunson explains the absence of the Warlpiri VP in pre-AUX position by arguing that V in Warlpiri projects a degenerate V' level constituent (dominating a complement, but no specifier) as its maximal projection (the same structure she proposes for IP). Such a constituent cannot move to SPEC of C, which only allows X" maximal projections (in other words, an XP dominating both complement and specifier).

Positing two types of phrases, one with a SPEC and the other without a SPEC, is not a desirable move (although this position is also adopted by Austin and Bresnan, who allow that the SPEC of IP is optional) because it introduces additional unconstrained variation into our syntactic model. How does one know/learn which categories project which type of phrase? Can language variation be represented this way? Can categories that project a SPEC in one language be considered the same as those that do not in another language? Can a language change over time in such a way that a "defective" category comes to project a full XP, or vice versa?

For both Brunson and Austin and Bresnan, who assume that the Warlpiri verb is a head X° category and not an XP, the underlying

position or function of the verb in the pre-AUX position must be characterized differently from that of KP constituents. Brunson analyzes the verb in pre-AUX position as the incorporation of V into C, thus a case of syntactic head-to-head movement or raising via I (Brunson 1988:56) familiar from analyses of both Romance and Germanic languages. What is not explained is what blocks a KP from filling the SPEC of CP, given that it is still "available" under this account.[26] Austin and Bresnan, on the other hand, propose a phonologically motivated movement rule by which an enclitic AUX requiring a host moves down to encliticize to the first phonological word dominated by S as illustrated in Figure 5-4. This proposal fails to account for the pre-AUX placement of the verb in the absence of any obvious phonological motivation, also a problem for Hale's earlier account. It also predicts surface structures that are not permitted, as recognized by Austin and Bresnan (1996:227). Giving this phonological rule the status of a rule of last resort, which is what Austin and Bresnan invoke to overcome these problems, does not provide the solution, since it predicts that verb-initial clauses would be found only where the only surface constituents were the verb and the AUX, as the syntactic rule of XP movement to the SPEC of the clausal phrase should be available in all the other cases.

In both analyses, then, a KP in pre-AUX position is accounted for differently from a verb in pre-AUX position. In both accounts, the pre-AUX KP occupies the SPEC of the functional category that heads the clause: C in Brunson's account, I in Austin and Bresnan's account. Brunson accounts for both the pre-AUX positioning of the verb (raised to C via I) and of an NP (movement to SPEC of CP) as a syntactic operation. In contrast, Austin and Bresnan propose a syntactic account for the positioning of the KP in the pre-AUX position (movement to SPEC of IP), while they analyze the verb in pre-AUX position as the result of a phonological process.[27]

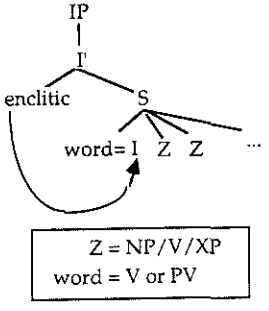


Figure 5-4. Auxiliary lowering rule (compare Austin & Bresnan [1996:226 (14)]).

Austin and Bresnan also invoke their phonological "lowering" rule (Figure 5-4) to account for the pre-AUX placement of a constituent of a complex verb referred to in the Warlpirist literature as a "preverb" (PV). As I will show, Austin and Bresnan's phonological solution fails to account for the complexity of the syntactic relationship between the components of a complex verb and the AUX, to be explored in the next section. Brunson does not address the problem of how to represent AUX-straddling in the clausal syntactic structure.

AUX Straddling

By AUX-straddling I mean sequences of the type PV-AUX-Verb or Verb-AUX-PV, where the verb may be morphologically "simple" or "complex."[28] The AUX cannot be straddled if it contains an overt AUG. These AUX-straddling structures are illustrated in (14). The PV *yarda* in pre-AUX position in (14a) contrasts with the presence of the entire complex verb, PV-verb *yarda -wangkami* in (15a), and verb-PV *kulpamirra pina* in (15b), which reverses the word order of (15a).[29] In the AUX-straddling example in (14b) the complex verb *turnu-mani* is in pre-AUX position, while the associated PV *muku* "all" immediately follows the AUX. Except for (15a) in which the PV *yarda* and verb *wangkami* constitute a prosodic unit that may be characterized as a compound word (or single prosodic phrase), the PVs and verbs in (14) and (15) constitute distinct words (or phrases).

(14) a. *Yarda* ***ka=lu=nyanu*** *wangka-mi.* [PV-AUX-Verb]
more CENTR=3PL.S=ANAPH talk-NPAST
'They are talking to each other again.'

b. *Turnu-ma-ni* ***ka=jana*** *muku* [...] [Verb-AUX-PV]
gather-CAUSE-NPAST CENTR=3PL.NS all
'It gathers them all (up).'

(15) a. *Yarda-wangka-mi* ***ka=lu=nyanu..*** [PV-Verb-AUX]
more-talk-NPAST CENTR=3PL.S=ANAPH
'They are talking to each other again.'

b. *Kulpa-mi-rra* *pina* ***kaji=ka=rna.*** [Verb-PV-AUX]
return-NPAST-THITHER back POSS=CENTR-1SG.S
'I might go back again.'

The assumption that AUX is projected as a functional category and that the immediate pre-AUX is associated with its SPEC leads to the further assumption that only XP constituents may occupy this position. Assuming also that the verbal constituents that appear in the pre-AUX

position also occupy this SPEC position, then it must be the case that they too are XPs rather than X^0. This includes the PV, the inflected V, and the complex constituent composed of PV(s) + inflected V. On the other hand, if it can be shown that a PV or verb immediately preceding AUX is not in its SPEC then, of course, our claim of phrasal status for the Warlpiri verb would have to be argued on different evidence.

Apart from their syntactic distribution, there is other evidence that the components of a complex verb, PV and V, are somewhat independent. One such piece of evidence comes from the behavior of regressive vowel harmony. As Nash (1982) shows, the regressive rounding harmony triggered by the high rounded vowel *u* in the past tense inflection of certain verb classes, extends only to the edge of the verb root. Thus the domain of regressive harmony in a complex verb excludes all preverbs. In (16) the harmony domain is included in square brackets.

(16) a. *pirri-[kuju-rnu]* b. *pirri-[kiji-rni]*
scatter-[throw-PAST] scatter-[throw-NPAST]
PV [Vroot-Vinfl]

If we assume that the inflectional suffix represents the head of a functional category that I will refer to as verb-tense (Vt), then the relationship of the verb root to Vt can be characterized as one of SPEC to head. This structure that we will label VtP (tensed verb phrase) is then analogous to a KP in which the NP immediately preceding K forms a harmony domain with K. The PV (or PVs) are adjoined to the structure dominating the inflected verb, just as additional NPs can be adjoined to the structure dominating a KP.[30] This assumes that PVs are also XPs that may occupy a SPEC position, or adjoin to another XP. I have labeled them PVP (preverb phrases). More than one PVP can be adjoined to an inflected VP (Figure 5-5a); similarly more than one NP can be adjoined to a KP (Figure 5-5b).

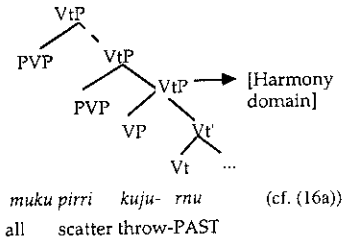


Figure 5-5a. Structure of complex inflected finite verb.

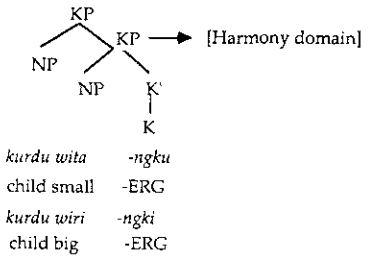


Figure 5-5b. Complex KP dominating adjoined NP.

However, the ability of the PVP to move out of the finite/tensed verb phrase to a pre-AUX position is not shared by the adjoined NP in the KP structure shown in Figure 5-5b. Neither is the ability of the PVP to occupy the post-verbal position, including the post-AUX position, shared by the adjoined NP. For example, the adjoined NP *kurdu* 'child' in Figure 5-5b, cannot be placed in front of AUX unless the entire KP is in pre-AUX position, nor can it be placed after the case-marked NP *wita-ngku*. Similar constraints hold of a verb inflected as non-finite or nomic. While Verb-INF **must** be case-marked, the case-marking **cannot** be extended to the associated PV (or PVs). Thus the non-finite structure appears to be that of a KP in which only the rightmost constituent (Verb-INF) is case-marked. Relevant data are given in (17) in which the PV is underlined.

(17) a. *Yarda-ya-ninja-ku.*
again GO-INF-DAT
PV-V-INF-K
'to go again'

b. **ya-ninja-ku yarda.*
c. **Yarda-ku ya-ninja-ku.*
d. **ya-ninja-ku yarda-ku*

This reveals a formal distinction between a PV and an NP; the former cannot be case-marked by the case on the accompanying non-finite verb, while an NP can be case-marked by the same case as the NP with which it forms a complex KP[31] as schematized in Figure 5-6.

Verb and Directional Enclitics

Another difference between the behavior of the components of a finite as opposed to non-finite verbal complex is in the placement of a directional deictic enclitic from a small set: =rni "hither," =rra "thither," =mpa "across, past," =yi "continuous" (Hale, 1986). A directional enclitic attaches only to a constituent of the verbal complex, so it must be considered as a verbal category, one I will represent as a functional head DIR[ectional]. In finite clauses, either the outermost PVP or the inflected verb may host the enclitic as shown in (18).[32] In the single prime examples in (18) the AUX base *-lpa* is "straddled" by the PVP *yarda* and the verb, either of which may host DIR, whereas in the double prime examples, the entire verbal complex is preposed to AUX irrespective of which component hosts DIR, or their relative order. (The PV is underlined in [18].)

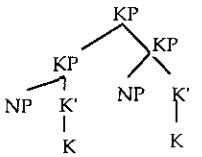


Figure 5-6. Complex KP dominating adjoined KP.

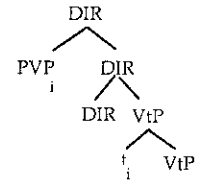
(18) a. *Yarda=**rni*** *ya-nu.* — a'. *Yarda=**rni**=lpa yanu.*
again=DIR go-PAST — a". *Yarda=**rni** yanu=lpa.*

b. *Yarda-ya-nu=**rnu**.* — b'. *Yarda=lpa yanu=**rnu**.*
again-go-PAST=dir — b". *Yarda-yanu=**rnu**=lpa.*

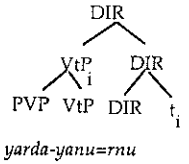
c. *Ya-nu=**rnu*** *yarda.* — c'. *Yanu=**rnu**=lpa yarda.*
go-PAST-dir again — c". *Yanu=**rnu** yarda=lpa.*[33]
'He came again.'

I argue that DIR projects a phrasal category that governs the inflected verb phrase[34] (VtP). Its SPEC must be filled by the VtP or a phrasal category immediately dominated by the highest VtP node. Graphic representations of the structures underlying (18a-c) are given in Fig. 5-7. AUX-straddling occurs when the PVP or VtP in the SPEC of DIRP raises to occupy the SPEC of CP, leaving a remnant DIRP in its wake. The additional assumption that must be made is that the DIR form encliticises to the phrase in SPEC of DIRP. The rarity of tokens of the c. structure in Figure 5-7 in which the remnant VtP dominates a trace of the embedded VtP is to be expected.

a. PVP raised to SPEC of DIRP



b. VtP raised to SPEC of DIRP



c. EmbeddedVtP raised to SPEC of DIRP

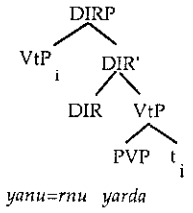


Figure 5-7. Structure of Directional Phrase (DIRP).

Unlike the examples of movement of a KP or the full verbal complex (DIRP) to SPEC of CP, which appears to be a "long distance" movement, AUX straddling clearly involves a more local movement, since the constituent following AUX must also be part of the verbal complex. The SPEC of DIRP is the launch site for movement to SPEC of CP, but DIRP must be in the SPEC of ASP for this move to be allowed. Furthermore, it is allowed only if AUX can raise into the empty head of CP. It may well be that DIRP can move to the SPEC of ASP only if AS has raised into C. The incorporation of AS into an overt C would not allow AS to C-command ASP and thus licence the presence of DIRP in SPEC of ASP.

Before moving from SPEC of ASP to SPEC of CP, DIR encliticizes to the left most edge of the constituent in its SPEC (as do other heads). These syntactic relationships are schematized in Figure 5-8.

While the non-straddling construction with the full verbal complex in pre-AUX position can be represented as the long distance movement of DIRP into the SPEC of CP (whether from SPEC of ASP or elsewhere needs to be determined[35]), the movement of the phrase in the SPEC of DIRP to SPEC of CP assumes that DIRP dominated by ASP does not constitute a barrier to movement. We can only assume that this movement is licensed because the AS category may be projected in C, and hence governs into the ASP.

In non-finite clauses with a complex verb, there is a very strong preference for only the PVP to host DIR as shown in (19), not the inflected verb (19b).[36] This preference occurs even though a non-finite verb may host DIR when it functions as a PV to another verb. In the absence of a PV, DIR is occasionally encliticized to an INF verb.[37]

(19) a. *Yarda=**rni** ya-ninja-ku.*
again=DIR go-INF-K
'to come again'

b. ?**Yarda-ya-ninja=**rni-ki.*
again go-INF=DIR-K

However, the PV (*yarda*) or the PV=DIR (*yarda=rni*) accompanying a non-finite verb may not straddle the AUX, as shown by (20a). This

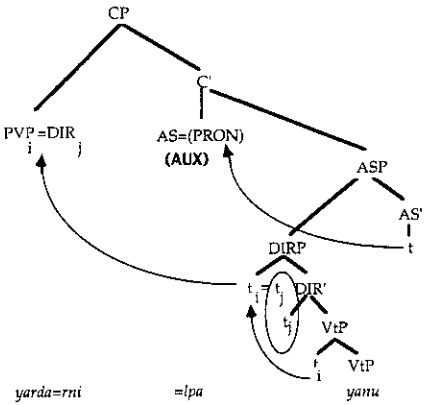


Figure 5-8. AUX straddling structure.

lends further weight to the claim that the PV-Verb-INF complex forms an XP that is governed by K. Although the uppermost PVP may move out of the KP to the SPEC of the Directional Phrase (DIRP), it can move no further, thus preventing AUX straddling. Movement out of the KP is not possible, although the KP itself can be found in the pre-AUX position as shown in (20c). The inability of *yarda=rni* to precede AUX in (20a), contrary to (20b) with a finite verb, provides a further challenge to Austin and Bresnan's AUX lowering rule, since *yarda=rni* has the status of an independent phonological word (or indeed phrase) in both (20a) and (20b).

(20) a. **Yarda(=rni)* ***ka=lu*** *ya-ninja-ku* [...]
again(=DIR) AUX go-INF-K

b. *Yarda(=rni)* ***ka=lu*** *ya-ni.*
again(=DIR) AUX go-NPAST
'They are going/coming again.'

c. *Yarda(=rni)* *ya-ninja-ku* ***ka=lu*** *ngampurrpa* *nyina-mi.*
again(=DIR) go-INF-K AUX desirous be-NPAST
'They want to go/come again.'

The close relationship between the PV and Verb-INF, reflected in their strict ordering and the fact that only the Verb-INF (the rightmost constituent) can be case-marked, parallels that between the kin-propositus NP-DAT and the NP expressing the kin term in kin nominal expressions of the type: *Jakamarra-ku jaja-nyanu-rlu* (Jakamarra-DAT granny-ANAPH-ERG) "Jakamarra's granny." This KP may occupy the pre-AUX position only if there is no variation in its internal word order and if no element, including AUX, intervenes between the dative-marked constituent and the case-marked kin NP.[38]

Although a dative case-marked KP may freely occur in pre-AUX position, it cannot do so if embedded within an NP within a KP. Similarly PVs may straddle AUX, but not if embedded within a nominalized verbal expression embedded within a KP. Thus the failure of the AUX straddling example (20a) must be treated in like fashion to the failure of AUX straddling in both (21b) and (22b) in which AUX splits a complex KP, where K is marked only on the final component of the complex constituent headed by K. The dative KP *Jakamarra-ku* in Fig. 5-9 cannot be extracted from the dominating NP.

(21) a. *Jakamarra-ku* *jaja-nyanu-rlu* ***ka=ju*** *paka-rni.*
J-DAT MM-ANAPH-ERG CENTR=1SG.NS hit-NPAST
'Jakamarra's granny hits me.'

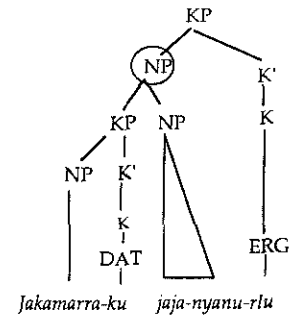


Figure 5-9. KP dominating complex NP with embedded KP.

b. **Jakamarra-ku* ***ka=ju*** *jaja-nyanu=rlu* *paka-rni.*
J-DAT CENTR=1SG.NS MM-ANAPH-SERG hit-NPAST
≠ Jakamarra's granny hits me.

These structures are compared in Figure 5-9 and Figure 5-10.

The NP immediately dominated by KP in Figure 5-5, Figure 5-9, and Figure 5-10[39] cannot move out from the KP, nor can any sub-constituent of that NP. Thus the first NP in Figure 5-5, cannot be preposed to AUX, unless the KP of which it is part is also in that position. Thus the AUX straddling structure in (22b) is not possible for the same reason that (20a) and (21b) are invalid. NP is a barrier to extraction.

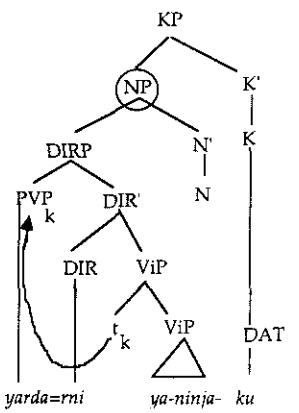


Figure 5-10. KP dominating complex non-finite verb.

(22) a. *Ngulya* *jinta-ngka* ***ka=lu*** *paka-rni.* (same as [15d])
burrow one-LOC CENTR=PL.S hit-NPAST
'They kill (them) in one burrow.'

b. **Ngulya* ***ka=lu*** *jinta-ngka* *paka-rni.*
burrow CENTR=PL.S one-LOC hit-NPAST

As shown in (12c), repeated for convenience as (23a), a complex KP made up of adjoined KPs with the same case value and the same grammatical function may occupy the pre-AUX position. The structure underlying this constituent was shown in Figure 5-6. The relationship between the adjoined KPs appears to be much freer than between a PVP and a finite VtP, since the KPs may be discontinuous and may occupy *any* position within the clause as illustrated in (23b-c). Recall that AUX straddling requires part of the verbal complex in the immediate pre- and post-AUX positions, whereas discontinuous KPs are not subject to this constraint as evidenced by (23c), nor are they subject to the "empty" C condition required for AUX straddling. This is shown by (26b) in which AUX is composed of the AUG form *kaji*, BASE *ka*, and PRON *-lu*.

(23) a. *Ngulya-ngka* *jinta-ngka* ***ka=lu*** *paka-rni.*
burrow-LOC one-LOC CENTR=PL.S hit-NPAST
'They kill (them) in the one burrow.'

b. *Ngulya-ngka* ***kaji=ka=lu*** *jinta-ngka* *paka-rni.*
burrow-LOC POS=CENTR=PL.S one-LOC hit-NPAST
'They kill (them) in one burrow.'

c. *Ngulya-ngka* ***kaji=ka=lu*** *paka-rni* *jinta-ngka* .
burrow-LOC POS=CENTR=PL.S hit-NPAST one-LOC
'They kill (them) in one burrow.'

Assuming that the AUX base is a functional category that projects an Aspectual Phrase (ASP) that dominates the finite verbal complex (DIRP),[40] while the AUG category is the functional category C that subcategories for ASP,[41] then as Brunson (1988) argued, the pre-AUX position in which an XP is in focus would be SPEC of CP. The fact that AUX-straddling is only possible in the absence of an overt C, raises a number of possibilities. One is that such clauses are ASPs and not CPs and that the part of the verb complex preceding the AUX base is a phrasal category (VtP or PVP) that has raised to the SPEC of ASP leaving a remnant phrase in COMP of ASP. However, the pre-AUX verbal constituent is still attributed a focus interpretation, which indicates that the position it occupies is SPEC of CP, rather than SPEC of ASP. Another possibility would be that the pre-AUX verbal constituent is an X^0 (PV or V) category that raises to the empty C. Unanswered, however, would be the question of why the SPEC of C must remain empty. Acceptance of the first solution also leaves unexplained the mechanism by which the C category fails to be projected and how a clause that is underlying an ASP differs from one that is a CP. My proposal, which allows an XP to move from SPEC of DIRP, where DIRP is situated in SPEC of ASP, to the higher SPEC of CP, accounts for the data without leaving this residue of outstanding problems to be solved.

To account for the absence of any embedded KP constituent within the finite VtP (except within a PVP), I must assume that overt argument expressions are not internal to VtP. Although, as we have seen, an overt Object nominal that is *not* case-marked may be embedded inside a non-finite verb phrase, on condition it occupy the position immediately preceding the verb, case-marked expressions, including the nominative object (or subject), are realized only outside the VP, presumably because they can be licensed for case only by moving to a VP external position.

If we allow the finite verb in Warlpiri to be represented by a phrasal category, then nothing special needs to be said about its realization in pre-AUX position taken to be SPEC of CP, which any XP in focus may occupy provided there is no subjacency violation. Similarly, assuming that preverbs are adjoined to the VP in the way that an NP may be adjoined to a KP, the preverb category must also be a phrasal category—not surprising given that most preverbs also function as nominals. Hence the PVP may also occupy a SPEC position, including the SPEC of CP, under certain conditions spelt out in this section. Representing both the inflected verb and accompanying preverbs as XPs and allowing that they, like KPs, may move to SPEC of CP account for the fact that a verb or preverb in the immediate pre-AUX position is interpreted as in focus.

If, however, non-focused XPs are found in the immediate pre-AUX position, as suggested by (24), we need to consider the possibility that the pre-AUX position may be represented as the SPEC of more than one category. In (24) it is the topic "spear-thrower" that occupies the pre-AUX position, while the interrogative phrase "where" is found in post-AUX position, although it is clearly the focused constituent.

(24) *Pikirri=ji=**npa*** *nyarrpara-rla*
spearthrower:NOM=TOPIC=2SG.S where-LOC
warungka-ma-nu-rnu?
forget-cause-PAST-hither
'Where did you forget the spearthrower on your way here?' [HN:0047]

I will return to a discussion of the issues raised by (24) in the section Negative Aux, having laid the groundwork in the next section where I

briefly examine finite clauses in which *propositional particles* occupy the clause-initial position rather than any of the phrasal categories so far seen in that position, namely KP, DIRP, VtP, or PVP.

Propositional Particles in Pre-AUX Position

A propositional or evidential particle (Laughren, 1982) with both semantic and syntactic scope over the clause, may occupy a pre-AUX position as in (25). (The particle is underlined in [25] and [26].)

(25) *Kari* *[ka=lu* *wangka-mi].*
perceptually:evident CENTR=PL.S speak-NPAST
'(I) can see/hear (that) they are speaking.'

A survey of the distribution of propositional particles indicates that these operate within a functional projection that may take the CP as their complement, rather than occupying the HEAD or SPEC of CP, since they may precede the C (AUG) as in (26a and b) and also a constituent occupying the SPEC of CP as in (26c and d).

(26) a. *Kula-nganta* ***[kapu=npa=ju***
contrary-to-expectation FUT=2SG.S=1SG.NS
yu-ngkarla].
give-IRREALIS
'I thought [you would have given (it) to me (but you didn't)].'

b. *Kula-nganta* ***[kaji=npa*** *nyuntu* *pantu-rnu].*
contrary-to-expectation POSS=2SG.S 2SG spear-PAST
'I thought (wrongly) [that **you** must have speared it].'

c. *Kari* *[wiyarrpa-rlu* ***kala=ka=npa=nyanu***
perceptually evident poor_thing-ERG POT=CENTRd=2SG.S-ANAPH
ngarrpangarrpa-ma-ni].
lie-CAUS-NPAST
'I can see that [you are liable to be telling lies].'

d. *Kari-nganta* *[miyi-wangu* ***ka=rna=lu=jana***
fact food-WITHOUT CENTR=1.S=PL.S=PL.NS
yarnunjuku *nyina].*
hungry sit:NPAST
"Isn't it obvious that [we are waiting for them (here) hungry **without any food**]."

e. *Kari-nganta=**rna*** *kuyu-jarra* *yampi-ja-rni.*
fact =1.S meat-two leave-PAST=DIR
'The fact is I left two animals (I speared) (back there) and came here.'

The positioning of the propositional/evidential particles in (26) shows that there is *more than one* pre-AUX constituent. The higher constituent is projected by the functional category we will symbolize as F,[42] which selects the CP as its complement, as shown in Figure 5-11 and which licenses the FOCUS interpretation on the constituent in the SPEC of CP.

While the SPEC of CP is associated with focus, the SPEC of the higher constituent FP is associated with a topic function. Thus in (24) the initial KP *pikirri*, to which the topic marker *=ji* is encliticized, is the already established topic of conversation. It is projected in the SPEC of non-overt F, while the interrogative *nyarrpara-rla* "where-LOC" is projected in the SPEC of CP, c-commanded by F. AUX (only instantiated by PRON in this example) raises to the highest functional category position, to license both TOPIC and FOCUS functions. However, unlike the situation where an overt category is projected in C, to which the overt AS form must incorporate, (AS having already incorporated PRON), a particle such as *kari* does not require that the AUX categories incorporate into it, for example (26c), although it may host AUX morphemes as in (26e). The AUX may raise into the unfilled F, as in (24), or it may incorporate into the filled F constituent as in (26b and e), thus licensing a TOPIC as well as a FOCUS function. Thus in (26b) it is the post-AUX constituent *nyuntu* "you" that is in focus, since it occupies the SPEC of CP while the AUX has incorporated

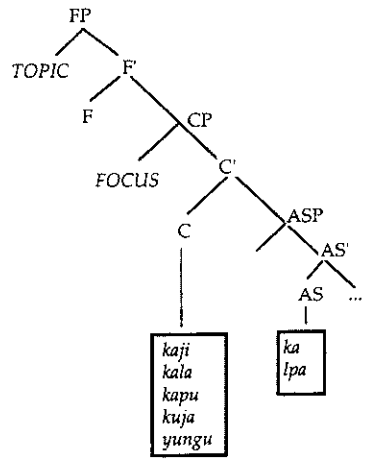


Figure 5-11. Locus of Topic and Focus functions.

into the higher constituent in F, forming a complex of propositional particle and AUX.

There is one morpheme, however, that *must* occupy the position F, which C-commands SPEC of CP, although, like AUG morphemes, it obligatorily hosts AUX (BASE (=AS) and PRON) and is incompatible with an AUG. This morpheme is the negative *kula*. Because it is in complementary distribution with the morphemes pre-theoretically classified as AUG, which project in C, this morpheme has been generally classified as a "negative complementizer" in the Warlpirist literature. It has a number of features, however, that distinguish it from the other "complementizer" forms listed as AUG in Table 5-2.

NEGATIVE AUX

Finite clauses may be negated in Warlpiri by introducing the negative morpheme *kula* to the clause. *Kula* must precede the constituents in its scope. In verbal clauses *kula* appears to occupy the AUG or C position. Like other AUG elements listed in Table 5-2, *kula* may combine with any AUX base (or AS form), but it cannot combine with an AUG form (projected in C), as shown in (27).

(27) a. ***Kaji=ka=rna*** *ya-ni.*
KAJI=CENTR=1SG.S go-NPAST
'I might go.'

b. ****Kula=kaji=ka=rna*** *ya-ni.*
NEG=KAJI=CENTR=1.S go-NPAST
≠'I might not go/be going.'

c. ***Kula=lpa=rna*** *ya-ntarla.*
NEG=CENTR=1.S go-IRR
'I can't go.'

In clauses with *kula*, the distribution of pre-AUX phrases is far more restricted than it is in non-negative clauses and the pre-AUX position with *kula* is *not* a focus position. In (28a) *ngaju* "I" is a topic, while *yani* "go" is the focused constituent. In (28c), on the other hand, *ngaju* is in focus. Thus the focused constituent immediately follows NEG-AUX in (28a and c) while it precedes the non-NEG-AUX in (29b). While a KP may be realized in the pre-NEG-AUX position where it receives a topic interpretation as in (28a), a verb may *not* occupy this position, as shown by (28b). As exemplified by (29b), a verb may occupy the pre-AUX position and receive a focus interpretation provided the AUX does not contain the negative *kula*.

(28) a. *(Ngaju)* ***kula=ka=rna*** *ya-ni....* (Focused verb)
(I:NOM) NEG-CENTR-1SG.S go-NPAST
'I'm not *going*/ don't *go*.'

b. **Ya-ni* ***kula=ka=rna*** *(ngaju).*

c. ***Kula=ka=rna*** *ngaju* *ya-ni.* (Focused pronoun)
NEG-CENTR-1SG.S I:NOM go-NPAST
'*I*'m not going/*I* don't go.'

(29) a. ***Kaji=ka=rna*** *ya-ni.*
POSS=CENTR=1SG.S go-NPAST
'I might go.'

b. *Ya-ni* ***kaji=ka=rna.*** (Focused verb)
'Go I might.'

These data indicate that *kula* must occupy a higher position than C, possibly equivalent to the F position (Figure 5-11), so that it must always C-command the focus position, which is the SPEC of CP. This predicts, then, that interrogative phrases may not occupy a pre-NEG-AUX position, since they must occupy the focus position C-commanded by *kula*. This prediction is borne out. Interrogative KPs may *not* occupy the pre-NEG-AUX position. Negative *kula* is an operator that must always occupy a syntactic position where it C-commands the other functional categories and their projections that constitute the AUX, including the quantifier/interrogative phrase, which is only licensed in SPEC of CP. Thus the relationship between the interrogative KP *nyarrpara-kurra* and *kula* in (30a) cannot be interpreted. In (30b) where *kula* C-commands the interrogative KP (and verb) the relationship is interpretable without an interrogative meaning as indicated by the English gloss. As seen in (28a), a non-quantifier KP may occupy the pre-NEG-AUX position thus outside the scope of negation where it may receive a topic or neutral interpretation.

(30) a. **Nyarrpara-kurra* ***kula=ka=rna*** *ya-ni?*

b. ***Kula=ka=rna*** *nyarrpara-kurra* *ya-ni.*
NEG-CENTR-1SG.S where-ALLAT go-NPAST
'I'm not going anywhere.' (≠ Where are you not going?)

In contrast with (30), a quantifier phrase such as *nyarrpara-kurra* may occupy the pre- or post-AUX position where the AUX is headed by a non-negative C. Only the interrogative interpretation is available when the quantifier phrase precedes AUX as in (31b). In (31a) it is interpreted

within the scope of the modalized assertion, but given (24) the interrogative interpretation is also available in the post-AUX position.

(31) a. ***Kaji=ka=rna*** *nyarrpara-kurra* *ya-ni.*
POSS=CENTR=1SG.S where-ALLAT go-NPAST
'I might go somewhere.' (or 'Where might I go?')

b. *Nyarrpara-kurra* ***kaji=ka=rna*** *ya-ni?*
where-ALLAT POSS=CENTR=1SG.S go-NPAST
'Where am I likely to go to?' (≠ 'I might go somewhere.')

I claim that in both (31a) and (31b), the quantifier phrase occupies the *same* position (SPEC of CP), while AUX occupies *different* positions: in (31a) AUX has raised from C to F (Figure 5-11), while in (31b) it remains in C. This explains two observations we have made: first, that the quantifier phrase *nyarrpara-kurra* is the focused constituent in both (31a) and (31b), since in both sentences it occupies the SPEC of CP where focus is licensed; second, that the AUG *kaji* may be replaced by negative *kula* in (31a), this is not the case in (31b), since *kula* must be able to raise to F and hence precede the focused quantifier.

Another property of *kula* that distinguishes it from the AUG morphemes listed in Table 5-2 is that *kula* may also negate a proposition expressed by a finite nominal clause, as illustrated in (32a). PRON is the only AUX category (apart from *kula*) found in nominal clauses.[43] It would seem then that, unlike the AUG and BASE components of AUX, which are dependent on the inflectional properties of the finite verb, *kula* is more independent of these "verbal" categories. Note also that just as the verbal predicate in a finite clause may not be pre-posed to *kula* (28b), the nominal predicate is also excluded from this position (32b).[44]

(32) a. *Kula* *nyanungu.*
NEG him:NOM
'It's not him/her/it.'

b. **Nyanungu* *kula.*
≠ 'That's not him.'

I conclude then, that *kula* occupies a higher position than C and that it governs the CP. It functions as a clausal *operator* and hence must not be C-commanded by an element that must be within its scope, such as a verbal or nominal predicate, a quantifier phrase, or the other functional categories that constitute AUX. The phrasal categories that may occupy its SPEC position are outside the range of the operator. To account for

the fact that *kula* can only be used where C is unfilled by an AUG, I propose that *kula* is first projected in C and then obligatorily raised to F to satisfy its scope requirements.

At this point let us return to a consideration of (24), repeated here for convenience as (33), in which the topic of conversation, *pikirri* "spearthrower" is in the pre-AUX position, while the interrogative KP *nyarrpara-rla* "where-at" is in focus in the immediate post-AUX position. In (33) the "operator" position F (which *kula* occupies in negative finite clauses, for example [28a] and [30b]) is not filled (nor are C or AS). PRON raises to the highest AUX position, which is F, via the AS and C positions. The topic KP *pikirri=ji* is in the SPEC of FP, as is *ngaju* "I/me" in (28), while the focused interrogative KP is in the SPEC of CP.

(33) *Pikirri=ji=**npa*** *nyarrpara-rla*
spearthrower:NOM=TOPIC=2SG.S where-LOC
warungka-ma-nu-rnu?
forget-cause-PAST-HITHER
'Where did you forget the spearthrower on your way here?'
[HN:0047]

Negation and Imperative

The Warlpiri imperative verb form does not combine with an overt C or AS, or with subject person-marking forms in PRON. The PRON components of AUX, which are expressed in the sentences in (34), are the subject *number* enclitics (*=lu* "plural") and the non-subject bound pronoun (*=jana* '3.PL'). As in nominal finite clauses, the "defective" AUX consisting only of PRON elements is hosted by the clause initial phrase, which may be the imperative verb (34a), but not necessarily so (34b). The imperative verb does not combine with the negative operator *kula* (34c). To express a negative command, the main verb is nominalized inside a negative (or "privative") expression embedded in a matrix clause with an imperative verb (34d-e).[45] The commands in (34) are addressed to more than one person.

(34) a. *Paka-ka=**lu=jana*** *maliki-patu.*
hit-IMP=PL.S=3PL.NS dog-pl:NOM
'Hit the dogs'

b. *Maliki-patu=**lu=jana*** *paka-ka.*
dog-pl:NOM=PL.S=PL.NS hit-IMP
'Hit the dogs'

c. **Kula=lu=jana* *paka-ka!*
≠ 'Don't hit them!'

d. *Paka-rninja-wangu-rlu=**lu=jana*** *yampi-ya!*
hit-INF-PRIV-ERG=PL.S=PL.NS leave-IMP
'Don't hit them!' (lit. 'Hitting-without them leave')

e. *Yampi-ya=**lu=jana*** *paka-rninja-wangu-rlu!*
leave-IMP=PL.S=PL.NS hit-INF-PRIV-ERG
'Don't hit them!' (lit. 'Leave them hitting-without')

The incompatibility of the imperative (IMP) and negative *kula* recalls that of AUG and *kula*. If we assume that there is a non-overt IMP operator that licenses the realization of IMP on the verb, which is projected in C, then its incompatibility with *kula* derives from the same source as the **kula*-AUG incompatibility; that is, the negative operator in C prevents the projection of another head to that position, whether AUG or the covert imperative operator.[46] I am assuming that the PRON elements raise into AS and then incorporate into C in the standard way. In imperative clauses, the pre-AUX position retains the focus function and may be occupied by the imperative verb (e.g., [34a] and [34e]). Unlike *kula*, IMP does *not* raise to F.

These syntactic constraints associated with the *kula* "negative" are syntactic rather than purely semantic. This is shown by the fact that the most commonly used forms of negation in contemporary Warlpiri derive from English "no" (> *nuu*) and "not" (> *nati*). Unlike *kula*, these forms occupy the initial AUX position and may combine with an overt AUG (although not with all AUG forms) as in (35a). They may also combine with the imperative verb form to create a negative imperative as in (35b).

(35) a. *Nuu=**kala=lu=jana*** *maliki* *paka-rnu.*
NEG=PAST=PL.S=PL.O dog:NOM hit-PAST
'They used not kill (=hit) dogs.'

b. *Nati=**li=jana*** *maliki-patu* *paka-ka!*
NEG=PL.S=PL.O dog-PL:NOM hit-IMP
'Don't hit the dogs.'

What *nati* and *nuu* have in common with *kula*, apart from their semantic similarity, is that they must C-command the CP and are always immediately preposed to AUX. Where they differ from *kula* is that they allow the head position of the CP they govern to be filled. In other words *nati* and *nuu* are projected directly to F, whereas *kula* is first projected to C and then raised to F. Where *nuu* or *nati* heads AUX, quantifier KPs may only occupy the post-AUX position, confirming these negative morphemes in F function. As expected, the verb may not precede *nuu* or *nati*.

To summarize then, the Warlpiri AUX reflects an underlying structure of three functional categories: C, AS, and PRON.[47] For reasons we have not pursued here, each head must incorporate into the one that C-commands its phrasal projection, or may raise into an "empty" head. The CP is governed by an additional functional category F, to which the introduced negatives *nuu* and *nati* must project, along with propositional particles with clausal scope. The negative *kula* must always raise from C to F to C-command the FOCUS position in SPEC of CP and the predicate it negates. The imperative operator IMP is also projected as a non-overt C, which blocks its combination with *kula* but not with the "borrowed" negatives, as IMP does not raise to F. Where F is "empty," AUX may raise into that position, thus licensing the topic function of the constituent in SPEC of FP, while permitting the FOCUS function of the constituent in the SPEC of CP.

In the next section I briefly compare the behavior of Warlpiri *kula* with its cognate in two relatively closely related Ngumpin languages, Gurindji, and Mudburra,[48] drawing on work by Patrick McConvell (especially McConvell, 1996, and personal communications). This study provides some additional justification for the approach to the grammar of Warlpiri AUX presented so far.

A COMPARATIVE OVERVIEW

In this section I argue that the cross-linguistic differences that exist in the syntactic behavior of the negative *kula* in relation to other AUX categories and the finite verb provide further evidence in support of the approach taken to the representation of the syntactic constraints on the ordering of these categories in Warlpiri. In each of the languages under investigation, cognate PRON forms encliticize to functional categories. This complex typically occupies the clause initial or clause second position, but a very limited number of other possibilities also exist.

The features that I focus on in this section are: (1) the interaction between AUX and IMP, (2) the interaction between negative *kula* and IMP, (3) the interaction between negative *kula* and components of AUX, and (4) the nature of the categories to which PRON encliticizes.

The Imperative and AUX

Warlpiri and Mudburra are distinguished from the other Ngumpin-Yapa languages in not requiring PRON forms to obligatorily encliticize to an imperative verb, although this option is available in Mudburra. In all Ngumpin-Yapa languages the only AUX elements that co-occur with an imperative verb are the PRON elements minus the subject person forms, as illustrated for Warlpiri in previous sections. In all the Ngumpin-Yapa languages in which clausal negation is marked by *kula*—which

includes Gurindji and Mudburra in addition to Warlpiri—this negative morpheme may not coexist with the imperative. I accounted for this incompatibility in the Warlpiri case by proposing that *kula* is projected in C, which is also the position in which the non-overt IMP operator is projected.

At first glance a similar explanation can be extended to the other Ngumpin-Yapa languages with negative *kula*. For example, the obligatory encliticization of PRON to the imperative (and also hortative) verb in Gurindji can be explained if we assume that the imperative verb is required to move to the SPEC of C associated with the imperative operator to check the features associated with IMP. In Mudburra, unlike Gurindji, this "movement" is optional (McConvell, 1996). In Warlpiri, the verb only moves at LF to check this feature. However, if the imperative verb occupies the SPEC of CP, then one would expect it to occupy the clause initial position. This appears, however, not to be the case in Gurindji, as shown in (36a) in which the "object" KP *karnti* "wood:NOM" is in the preverbal position, although the alternative order is also allowed (36b).

(36) Gurindji
a. *Karnti* *jayi-ngka=yi.* (McConvell 1996:307 [15])
wood:NOM give-IMP=1SG.O
'Give me a stick.'

b. *Jayi-ngka=yi karnti.*
'Give me a stick.'

This can be accommodated within the framework proposed so far to account for the syntax of functional categories that underlie the Warlpiri AUX. The "object" KP *karnti* in (36a) may occupy the SPEC of FP. We would predict then that it could not receive a focus interpretation in that position but that it is the imperative verb that is focused.[49] We would also predict that the imperative verb may be clause initial (as in [36b]), as the focus position (SPEC of CP) is the typical clause initial position for all construction types except where there is an overt form projected as F, as exemplified by Warlpiri *kula* and propositional particles with clausal scope.

Placement of Kula in Relation to AUX

The Gurindji AUX complex may consist of an element such as *ngu=*, which obligatorily hosts the enclitic pronouns (PRON) if present. A modal element *=nga*, typically expressing doubt, may follow the PRON elements, as in (37).[50] There appears to be no category in Gurindji that corresponds exactly to the Warlpiri AS (or BASE); the aspectual values

expressed by Warlpiri *ka* and *lpa* are expressed by verbal inflections in Gurindji. Unlike Warlpiri, in which C (other than *kula*) and AS may only be filled in a clause with an overt finite verb, Gurindji and some other Ngumpin languages permit overt non-pronominal AUX morphemes in clauses with non-verbal predicates as in (37a). While Gurindji *ngu* like Warlpiri *ka* and *lpa* obligatorily host PRON, *ngu* is typically used in clause initial position (37a and b), whereas clause initial *ka* or *lpa* is highly marked in Warlpiri. Gurindji *ngu* may also be preceded by a KP or a verb (37c).

(37) Gurindji
a. ***Ngu=rna=nga*** *tampang.*
NGU=1SG.S=DOUBT dead
'I might be dead.'

b. ***Ngu=rna=nga*** *ya-ni.*
NGU=1SG.S=DOUBT go-PAST
'I might have gone.'

c. *Ya-ni* ***ngu-rna-nga.***
go-PAST NGU=1SG.S=DOUBT
'I might have gone.'

McConvell (1996:307) shows that *ngu*, like Warlpiri AUG and BASE forms, cannot coexist with the imperative verb. This is illustrated by (38).

(38) Gurindji
****Karnti*** ***ngu=yi*** *jayi-ngka.* (McConvell, 1996:307 [15])
wood:NOM BASE=1SG.O give-IMP
≠ 'Give me a stick.'

This result would be predicted on the assumption that *ngu=* is projected as C and that in imperative clauses a modal operator is projected in the C position, as proposed for Warlpiri, thus excluding *ngu-* (or any like category) from coexistence with IMP.[51] The incompatibility of *kula* and *ngu*, and also of *kula* and IMP, would also suggest that these forms are projected in the same functional category.

Unlike Warlpiri *kula*, however, which is always the first element in the AUX complex, Gurindji *kula* may be found in a number of different positions relative to PRON. While *kula* is incompatible with the imperative verb in all Ngumpin-Yapa languages in which it operates as the clausal negator, languages such as Gurindji, unlike Warlpiri, do permit *kula* in interrogative clauses with a quantifier phrase, as shown in (39a). Furthermore, a member of the category labeled as COMP by McConvell (1996) may also combine with *kula* where the COMP precedes *kula* and hosts PRON, as exemplified by *nyamu* in (39b).

(39) Gurindji

a. *Ngana=lu* *kula* *ya-ni?* (McConvell, 1996:3115 [30b])
who:NOM=PL.S NEG go-PAST
'Who (they) did not go?'

b. *Nyamu=lu* *kula* *ya-ni* ... (McConvell, 1996:3115 [30a])
COMP=PL.S NEG go-PAST
'Those who have not gone...' (lit. 'that they not went')

On the other hand, *ngu* may not replace *kula* in the examples in (39). If present, *ngu* obligatorily hosts PRON (see [41b] and associated discussion). On the other hand, *kula* may not host PRON in (39).

McConvell accounts for the constructions in (39) by assuming that *kula* remains in I while PRON encliticizes to *ngana* in the SPEC of CP in (39a) where C is empty, but to the COMP *nyamu* in (39b). In each case, PRON is dominated by C. If *kula* is projected in a lower functional category than C, then what is this category, and how do we explain the incompatibility between *kula* and IMP in Gurindji, as seen previously in Warlpiri?

If we assume that Gurindji *kula* and the dubitative monosyllabic *=nga* (not found in Warlpiri) belong to a functional category that is lower than C, which is associated with **M[ood]**, then it would seem only natural that IMP is also projected in this position, but must raise to C.[52] Recall that Warlpiri also has a functional category we have represented as lower than C (i.e., AS). This category is not found in Gurindji. Unlike Gurindji M, however, Warlpiri AS must always raise to C or incorporate in C and must always host PRON.[53]

Like Warlpiri, Gurindji has also acquired a negative morpheme with clausal scope from a variety of Aboriginal English; it is *numu* (<*no more*). This morpheme, like the Warlpiri *nati* and *nuu*, is projected in a higher node than both IMP and *kula* and hence is compatible with the imperative projected in C, and thus has the imperative verb and associated predicate in its scope. However, unlike Warlpiri *nuu* or *nati*, which must host AUX when used with the IMP, Gurindji *numu* does not host PRON; the imperative verb does, as (40) shows.

(40) Gurindji

a. *Numu* *ya-nta=lu.*
NEG go-IMP=PL.S
'Don't go!'

b. **Numu=lu ya-nta.*

In Gurindji, then, *kula* is projected in a position lower than C (equivalent to AS in the structure proposed to account for Warlpiri AUX in

Figure 5-11). It must raise into an empty head such as C or even F where it may host PRON, but it cannot incorporate into another head. Just as IMP blocks other functional AUX categories (other than PRON) in Warlpiri, the same occurs in Gurindji and the other related languages. Negative *kula* may not be in the scope of IMP or assertive *ngu*, but in Gurindji (unlike Warlpiri) it may be in the scope of a COMP such as *nyamu* and the covert form that licenses a quantifier KP as shown by (39a and b). That Gurindji *kula* may raise through "empty" C to F is shown by constructions that parallel the Warlpiri example in (30b) in which the focused quantifier KP is in the scope of *kula*. Gurindji *kula* must also C-command the predicate in its scope, as it does in Warlpiri, so that it cannot be preceded by a finite verb (cf. [30a]).

What then is the position to which *ngu* is projected? This morpheme does not surface in the presence of an imperative verb (38) or the negative *kula*. Recall that the Warlpiri aspectual forms *ka* and *lpa* do coexist with *kula*, which suggests that *ngu=* is not projected to the same syntactic position as the Warlpiri AS. Further evidence about where *ngu* is projected is provided by a development in "young people's" Gurindji, considered incorrect by older speakers (60+), which is that *ngu=* is included in the non-negative equivalent of (39b) and that *ngu=* and not *nyamu* (or its equivalents) hosts the enclitic PRON (McConvell, personal communication). This is illustrated by (41b). The older speakers' variant is given as (41a).

(41) Gurindji

a. *Nyamu=lu* *ya-ni.* (Older speakers)
COMP=PL.S go-PAST
'Those who went...'

b. *Nyamu* ***ngu=lu*** *ya-ni.* (Younger speakers)
F COMP=PL.S go-PAST
'Those who have gone...'

Ngu differs from *kula*, however; while *ngu* in (41b) *must* host PRON, *kula* in (39) may not. This difference between *kula* and *ngu* is expected if *kula* is projected in a lower functional head than *ngu* and if *kula* cannot incorporate into another overt head. Also indicated is that in Gurindji, PRON must project in C, and that the presence of *kula* in the lower functional category does not block this, any more than does the presence of the dubitative *nga*, which always follows PRON.

The difference between (41a) and (41b) can be accounted for if we assume that for the younger speakers, *nyamu*, like the negative *numu* , is projected directly to the F position, which C-commands CP. PRON incorporates into C where it is hosted by *ngu* and no further incorporation

occurs.[54] For the older speakers, *nyamu* is projected in C, thus blocking *ngu*, and hence hosts PRON.

CONCLUSION

I have tried to show in this chapter that it is profitable to pursue a close investigation of observable constraints on the syntactic structure of a language such as Warlpiri from the viewpoint of theories developed to explain the underlying phrase structure of languages such as English, where the match between the hypothesized underlying structure and the observable surface strings is more readily apparent than in Warlpiri. I have argued that AUX is an instantiation of a number of functional categories, two of which, C and AS, are "verbal,"[55] and two of which are merely properties of a finite clause, the clausal operator that projects in F (including negative *kula*) and the pronominal enclitics (PRON). The composition of AUX can be accounted for as the surface reflex of the successive raising and/or incorporation of these functional heads. Minor differences between related languages with cognate forms can also be accounted for in these syntactic terms as demonstrated in the preceding section.

The distribution of constituents in the pre-AUX position (as well as the clause initial realization of AUX) can be explained straightforwardly assuming that the "highest" functional category in the AUX complex is either C or F. It is F that governs into the CP and that "licenses" the focus interpretation on the constituent in the SPEC of CP. The phrase in the SPEC of FP may be interpreted as a topic in the discourse structure, or as a relatively neutral element. Crucially, this constituent is "outside" the scope of the operators such as negative *kula*, which are immediately dominated by F.

The ability of the verbal complex, or part of it, to occupy the pre-AUX position is accounted for in a straightforward way by assuming that the inflected verb and its PV constituents are phrasal categories. The inability of the object NP (or KP) to occupy the pre-AUX position along with the verb results from the "movement" of the NP out of the VP to a position where it can be assigned case.[56]

Finally, the additional syntactic constraints observed when the NEG element *kula* is present, as well as its place in the AUX complex, have been accounted for. In Warlpiri, *kula* is an operator that must C-command all constituents in its scope; hence it must raise to the highest functional category from C, at the same time excluding the instantiation of other forms in C, including the null "imperative" and "interrogative" operators. We have briefly sketched an outline of how we might extend this analysis of Warlpiri AUX to other languages of the Ngumpin-Yapa group where cognate forms display some interesting variation in their syntactic behavior. This variation can be captured in the syntactic framework constructed to account for constraints in both the formation of AUX and its relationships with other categories within the Warlpiri finite clause.

NOTES

This chapter develops some of the ideas presented in Laughren (2000). In writing this chapter I have benefited from discussion with Patrick McConvell, who has generously shared with me his knowledge of Ngumpin languages, and also with Ken Hale and David Nash, who identified important errors of fact in an earlier draft, and with Julie Legate, who also commented on an earlier draft. I am also grateful to an anonymous reviewer for some very insightful observations. None of these is in any way responsible for remaining errors of fact or analysis presented herein. Research presented in this paper was partially supported by Australian Research Council grant No. 00/ARCS213, while the writing was enabled by the University of Queensland Special Studies Program 2000.

1. The traditional Warlpiri-speaking area is situated in the Tanami Desert area of the Northern Territory of Australia. Warlpiri belongs to a group of Pama-Nyungan languages known as the Ngumpin-Yapa group (Laughren and McConvell, 1996; O'Grady et al., 1966). Warlpiri occupies the southeastern part of the Ngumpin-Yapa area. The Warlpiri data presented herein is drawn from a variety of sources including Ken Hale's Warlpiri fieldnotes (principally from Hale's 1959–60 and1966–67 field trips), which are indicated by "HN" and a page number, my own fieldnotes, and Warlpiri written and oral texts were collected between 1975 and 1999.
2. Whether what have traditionally been called "noun phrases" (NP) are projections of a functional category such as "determiner" forming "determiner phrases" (DP) or "case phrases" (KP) is not relevant to the argument being made here. The essential point is that the referring expressions that relate to a predicate's arguments constitute a syntactic phrase.
3. The following abbreviations are used in this chapter: 1 = first person, 2 = second person, 3 = third person, ALLAT = allative case, AS = aspect, ASP = aspect phrase, AUG = auxiliary augment, AUX = auxiliary, CENTR = central coincidence, C = complementizer, COMP = complement, DAT = dative case, DESID = desiderative, DIR = directional, DU = dual, ERG = ergative case, FUT = future, IMPF = imperfective aspect, INCL = inclusive, INF = infinitive, IRR = irrealis, K = case, KP = case phrase, LOC = locative case, NEG = negative, NOM = nominative case, NPAST = non-past, NS = non-subject, PL = plural, POSS = possibility, POT = potential, PV = preverb, PVP = preverb phrase, S = subject, SG = singular, and SPEC = specifier.
4. While this tends to be the preferred ordering in Warlpiri, the reverse order in which the modifying phrase precedes the modified one is also attested.
5. The ergative case allomorphs are phonologically determined.
6. While the words in (3a) form three phonological phrases that can be shown to correspond to three phrasal constituents (i.e., *yakajirri-rli maju-ngku, yankirri wita,* and *maju-manu*), the words in (3b) each constitute a phonological and syntactic phrase. Both post-verbal words, *wita* and *maju-ngku*, are typically separated from the verb and from each other with a pause and a "new

phrase" intonation, partially resembling the English "afterthought" intonational pattern.

7. In the Australian context many Aboriginal children have been brought up in English-speaking environments—and still are—so that their first, and in most instances only, language is Australian English. During my time among Warlpiri people, I observed that a number of children of European parents who interacted with Warlpiri people from an early age, especially those who had a Warlpiri nanny and who played throughout their first years with Warlpiri-speaking children, acquired native-speaker-like competence in Warlpiri, as well as English.

8. Within the Australian context, for example, the Arandic languages spoken to the immediate east of Warlpiri do not manifest the same degree of word order freedom or the "splitting" of nominal phrases that is found in Warlpiri, although these languages are genetically related, albeit distantly. There are many people who have grown up fully bilingual in Warlpiri and an Arandic language.

9. The phonological variation in the high vowel of the plural subject enclitic *=lu/li* is due to a process of progressive vowel harmony.

10. See Hale (1986) for details of the semantic distinctions between BASE forms.

11. (7a) and (7b) may also be translated as "Let the Yuendumu people speak to us."

12. For full details of the Warlpiri system of bound pronouns see Hale (1973), Nash (1986), Simpson (1991), and Simpson and Withgott (1986). There has been an extensive debate in the literature about the nature of the relationship between the AUX pronouns and the co-referring KPs within a clause (see especially Hale, 1973 and 1983; Jelinek, 1984; McConvell, 1996; and Simpson, 1991). For comparative studies of pronominal clitics within the Ngumpin-Yapa languages, see McConvell (1980 and 1996) and Nash (1996).

13. What is common to the elements classified as "verbs" in English is that they may be inflected for tense, marking a past/non-past distinction (except for a few modal verbs such as *must*).

14. The term "base" follows Hale's usage (Hale, 1967, 1968, 1973).

15. I have followed Hale's (1986) characterization of the aspectual contrast between the overt BASE forms *ka* and *-lpa* and their absence as one of "central" versus "terminal" coincidence, a semantic distinction that Hale identifies as grammaticalized in a number of different morphological paradigms in Warlpiri. I do not mark the non-overt BASE as "terminal," treating it as the default aspectual value.

16. However, in connected speech one finds examples of clause initial *ka* including examples of this monosyllabic form without enclitic pronominals. Some examples are found in Hale's Warlpiri fieldnotes (HN) (e.g., on pages 1386, 1602, 1756), although these can be characterized as being clause internal if the preceding expressions, although separated from *ka* by a pause, are analyzed as occupying the clause initial position.

17. There is some dialectal variation in the selection of BASE morphemes in the presence of the AUG *kala*. In western and southern dialects *-lpa* is not used with *kala* while in eastern dialects, particularly in Lander River Warlpiri, there is an aspectual contrast marked by the presence or absence of *-lpa* in conjunction with *kala* and the past tense verb form.

18. Unlike the infinitive and nomic verb forms, which do *not* combine with any AUX component, the "presentational present" and "imperative" forms combine with PRON.

19. I have also recorded examples of clauses starting with the BASE *=lpa* in spontaneous speech; however, these occurrences are rare and must be treated as somewhat marginal, although they warrant further attention. They typically appear after a pause or hesitation in connected speech. Some examples of clause initial *-lpa* in Hale's transcriptions of fluent speech can be found in Hale's Warlpiri fieldnotes on the following pages: HN 280, 868, 196, 883, 887, 888, 889, 890, 1107, 1151 (this features monosyllabic *-lpa*). These examples by no means exhaust those found in this corpus.

20. It is always possible to extrapose topicalized phrases by moving them to the left of the left edge of the clause. Such phrases acquire a special intonational melody and are typically followed by a real or virtual pause. Furthermore, these phrases are often repeated within the clause. These cases are not relevant to our discussion here.

21. I am assuming that all case-marked phrases are a phrasal projection of the functional category case (K) in Warlpiri. The case-marked phrase, typically an NP, occupies the SPEC position within the KP. I also treat the unmarked nominative phrase as a KP.

22. W represents a "word" while * indicates any number of occurrences of the category to which it is attached, including zero.

23. This feature of Warlpiri appears to contrast with English, in which a constituent containing an uninflected lexical verb and its object (as well as all subconstituents of the VP) may be realized in a pre-subject position, usually represented as in the SPEC of CP, as illustrated in (i)a.

(i) a. (They say) he hates carrots, (and) **hate carrots** he does.
b. ***Hates carrots** he.
c. **Carrots** he hates/ does hate.
d. ***Hate** he does carrots.

It is important to note that the inflectional features of tense and subject-verb agreement must be overtly realized on the auxiliary verb "do" and not on the lexical verb. Unlike modern English, Warlpiri allows a fully inflected verb to precede AUX. However Warlpiri is like English in that it allows the verb's object phrase to precede the AUX (e.g., "Carrots he hates.") while not allowing both the inflected verb and its object to precede AUX (Laughren, 1989) (e.g., "*Hates carrots he [does]."). In English, only a phrasal category may occupy this pre-subject position, so the ungrammaticality of (i)d. would indicate that the verb does not constitute a phrasal (XP) but a head (X^0) category.

24. In some respects, Austin and Bresnan's proposed structure is akin to that proposed for Hungarian by E. Kiss (1981 and in later work) to account for the "free order" of lexical constituents, in contrast with the strict ordering of positions at the left edge of the clause associated with various discourse functions such as focus and topic, subject to constraints on operator scope (e.g., E. Kiss, 1984). Nordlinger (1998) also argues for a non-configurational structure for the core of the clause in another Australian language, Wambaya.

25. In explanatory terms this is a costly assumption given the overwhelming evidence of subject-object asymmetries in Warlpiri (Laughren, 1989, 1992; Simpson, 1991; Simpson and Bresnan, 1983; among others) as in other languages such as English where the asymmetry has clearer surface phrase structure reflexes. Furthermore, it is difficult to explain the KP constituent formed by the non-finite verb and its "object" as shown in pre-AUX position in (12e) if we assume such a "flat" underlying structure.

26. Compare French *Ou allez-vous?* or early English *Where goest thou?* with Warlpiri **Nyarrpara yani ka=npa?* (Where go-NPAST AUX).

27. Legate (2001 and personal communication) has suggested that movement of XPs to SPEC of CP and the raising of the inflected verb (or PV) to C could both be motivated by the need to "check" the focus feature. Assuming that this feature can only be checked once, then either the V or an XP can occupy the pre-AUX position, but not both. The consequences of this proposal certainly deserve to be examined further in the light of the data presented in this chapter. Here, I will propose an alternative solution.

28. Nash (1982) provides the most extensive description of the Warlpiri verb and classification of the forms that have been put into a super syntactic category dubbed "preverb." See also Simpson (1991:111–120) for an extensive discussion of the relationship between PVs, the verbal stem, and the AUX. In my discussion of the syntactic behavior of preverbs in this chapter, I gloss over the finer distinctions that Nash correctly recognizes between PV types.

29. This order is extremely rare in pre-AUX position in our data base.

30. It is almost certainly the case that a null functional head must be introduced to allow the attachment of PVs to the inflected verb, because, as Nash (1982) shows, different classes of PV attach in different orders—there are inner and outer PVs. These facts can be best explained in terms of functional heads that select a complement phrase and that provide a SPEC position for a type of PV. Similarly, a null functional head could underly the semantic relationship between the component NPs of a complex KP shown in Figure 5-5b. I will not proceed any further with this line of inquiry here, since it is not essential to my argument. Nor is it a problem for my proposal; however, it deserves further research.

31. This derives not from any distinct lexical property, but from their distinct syntactic functions.

32. Although a complex verb may contain more than one PVP, only the outermost PVP can raise to SPEC of DIRP, as it occupies the SPEC position that must serve as the "escape hatch" from VtP to DIRP. Lower PVPs are thus blocked from raising because the (highest) SPEC within the maximal projection immediately dominating them is filled.

33. (18c") is somewhat rare.

34. The verbal category can be further extended by another functional category that we will call APPL[icative], which licenses reference to another participant by a dative case-marked expression. The nature of the relationship between this participant and the predicate-argument structure of the lexical verb (including all PVs contained in DIRP) may be specified by a member of the small class of "dative-adjunct" preverbs (Nash, 1982). These most outer PVs do not host DIR. As far as I have been able to ascertain, there is no equivalent of this class of PV in the other Ngumpin-Yapa languages. The DIR category is instantiated in most of the Ngumpin-Yapa languages, although a reanalysis of the forms as "tense" or "aspect" morphemes has occurred in some languages. I have not included the "dative adjunct preverbs" in this study, but they could be included in a way that is compatible with the analysis of the verbal complex and its interaction with AUX proposed here.

35. This line of inquiry will not be pursued here, but the dependencies between the verbal inflections and the AUX categories suggest that these reflect a relationship that could be best represented in structural terms, as a SPEC to HEAD relationship.

36. Like other PVs apart from Dative Adjunct PVs, non-finite verbs functioning as a PV may host DIR, e.g., [PVP*ya-ninja*] ***=rni*** *ya-ni* ([PVPGO-INF]=DIR go-NPAST) "go along."

37. David Nash brought some examples from entries in the Warlpiri-English dictionary (Laughren et al., 2001) to my attention, including the following:

Manu kuja-ka=rlipa=jana yirri-para yapa-kari **ya-ninja-rra-kurra** ngurra-kurra, yangka kuja-purda-kurra **wapa-nja-ya-ninja-rra-kurra**, manu yangka parnka-nja-kurra warnta-warnta-kurra—paniya-jarra-rlu. "Or when we follow other people with our eyes as they go off home, like as they are walking away (from us) or running past (us)." [Definition of *nya-nyi* "look, see"]. The relevant infinitive form that includes the directional *-rra* "thither" is **ya-ninja-rra-kurra** (go-INF-DIR-ALLAT). It is a simple verb in its first occurrence but the head verb of a complex verb structure in which the PV is another infinitival verb in its second occurrence [**wapa-nja-**]**ya-ninja-rra-kurra** ([PVP walk-INF]-go-INF-DIR-ALLAT). The DIR encliticizes to the non-PV infinitive in this case. I have found no example of enclisis of DIR to an infinitival verb, where the host INF is neither in PV function nor associated with a non-INF preverb.

38. In the relatively closely related Mudburra language, "possessive" noun phrases are constituted by encliticizing an AUX base to which PRON is encliticized to the dative-marked constituent, which must precede the "possessed" constituent (McConvell, 1996:316 [31]). Such structures clearly parallel AUX straddling by Warlpiri verbs.

39. The structure in Figure 5-10 features an empty N node, which is responsible for the conversion of the verbal category DIRP to a nominal one. Where there is no adjoined PVP, the ViP (infinitive verb phrase) may raise into the SPEC of DIRP and host DIR; otherwise there is a very strong preference for the PVP immediately dominated by the highest ViP node to move into SPEC of DIRP rather than the ViP constituent.

40. Or the higher projection of the "applied" category that licenses adjunct dative expressions.

41. C is typically shown as having IP as its complement. The nature of the IP is not well understood, I being used as a cover for many different functional categories—mood, tense, aspect, person, number, and so on, as discussed by Pollock (1989) and subsequent writers. Here I am presenting a conservative analysis in which AS realizes the traditional INFL category since both *ka* and *lpa* clearly have aspectual values. However, the modal values associated with these, as well as with the AUG forms and the various interactions of these with the verbal suffixes, must be accounted for in a fuller description of the functional categories underlying the Warlpiri finite clause.

42. This may be taken to be a projection of a category associated with illocutionary force that dominates the core syntactic structure of a finite clause.

43. (32a) does not exemplify a gapped or elliptic structure. An analogous elliptic clause with a missing verb such as *Kaji ngurrju,* "if (it had been) good," is not available in Warlpiri.

44. *Kula* cannot negate a non-finite clause, irrespective of the word class of the predicate.

45. Similarly an interrogative phrase can be associated with a negated predicate only if the predicate is nominalized and then embedded in the privative negative as in (ii).

(ii)	*Ngana*	*ka*	*nyina*	*ya-ninja-wangu?*
	who:NOM	CENTR	be:NPAST	go-INF-PRIV

'Who is not going?' (Lit. 'Who is staying without going?')

46. IMP's incompatibility with an overt BASE expressing "central" or "imperfective" aspect is another feature of Warlpiri IMP, which requires an explanation not attempted here.

47. The PRON component of AUX, which has not been investigated in this chapter, must be decomposed into person and number categories, and the relationship between these features and the grammatical relations of referring expressions must be represented in an adequate syntactic model. A sketch of how this might work and the relationship between the components of AUX in Ngumpin languages closely related to Warlpiri is proposed in McConvell (1996).

48. Gurindji and Mudburra are eastern Ngumpin languages spoken to the north of the Warlpiri speaking area—Gurindji to the northwest and Mudburra to the northeast.

49. Patrick McConvell (personal communication) claims that the interpretation of the verb's object *karnti* in (36a) is neutral, which is also true of the pre-*kula* KP in Warlpiri negative clauses.

50. This "modal" category, which features dubitative *-nga*, is widespread in northern and eastern Ngumpin-Yapa languages but is absent from both Warlpiri and Walmajarri. It is also found in Mangala, classified as a Marrngu language (O'Grady et al., 1966), spoken to the west of the Ngumpin-Yapa-speaking area, which has an AUX constituent similar to that of the Ngumpin-Yapa languages. Neither Warlpiri nor Walmajarri allows any encliticization to PRON elements in AUX.

51. The distribution of *ngu* may also be compatible with its projection as I, as argued by McConvell (1996), but I will not pursue this possibility here.

52. It may well be the case that IMP in Warlpiri (and also Mudburra) is also first projected in the functional category governed by C and then obligatorily raises into C.

53. In Walmajarri, the dubitative AUX morpheme *rta* is preceded by the C form and is always followed by PRON (Hudson, 1978); hence it behaves like Warlpiri AS in that it must incorporate into C. In Mudburra, *kula* is always the AUX initial form, as in Warlpiri, and may be followed by another non-PRON form such as *pa*, which is the immediate host of PRON. This is illustrated in (iii).

(iii) ***Kula=pa=rna*** *jalkaji* *lap* *warnta-rnirra.*
NEG=PA=1S spearthrower pick+up get-PAST
(McConvell, 1996:310 [25])
'I did not pick up a spearthrower.'

54. This analysis predicts that the F negative *numu* could be used in conjunction with *ngu* as in *Numu ngu=lu ya-ni* "They didn't go." I have not been able to check out this hypothesis.

55. These are verbal in the sense that they can be used only in a finite clause with a verbal predicate and that there are constraints on the coexistence of C, AS, and verbal inflectional forms.

56. In this chapter I have not discussed the evidence that supports this assumption, but see some discussion in Laughren (1992).

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